

## WHAT IS CLAIMED IS:

1. A thin until wet material suitable for use as an acquisition layer in an absorbent article, the material being at least partially cellulosic, said material being held in a compressed state by temporary binding mean until exposure to an aqueous liquid, wherein:

when said material is saturated by an aqueous fluid, said material has an expanded wet density of between about 0.04 grams/cm<sup>3</sup> and about 0.4 grams/cm<sup>3</sup> and a CDH of less than about 25 cm;

said temporary binding means helps maintain said material at a compressed dry density of between about 0.06 grams/cm<sup>3</sup> and about 1.2 grams /cm<sup>3</sup> until said material is exposed to an aqueous fluid wherein, upon such exposure, said temporary binding means releases so that said material expands at a compressed initial z-direction expansion rate of at least about 0.5 millimeters/second; and

the ratio of said compressed dry density to said expanded wet density is greater than about 1.5:1.

2. A thin until wet material according to Claim 1 wherein said expanded wet density is between about 0.04 grams/cm<sup>3</sup> and about 0.1 grams/cm<sup>3</sup>.
3. A thin until wet material according to Claim 1 wherein said material has a CDH of less than about 20 cm.
4. A thin until wet material according to Claim 3 wherein said material has a CDH of less than about 12 cm.
5. A thin until wet material according to Claim 1 wherein said compressed dry density is between about 0.06 grams/cm<sup>3</sup> and about 0.4 grams/cm<sup>3</sup>.
6. A thin until wet material according to Claim 1 wherein said ratio of said compressed dry density to expanded wet density said is greater than about 2:1.
7. A thin until wet material according to Claim 6 wherein said ratio of said compressed dry density to said expanded wet density is greater than about 2.5:1.
8. A thin until wet material according to Claim 1 wherein said material is selected from the group consisting of fibrous assemblies and regenerated cellulosic sponges.

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9. A thin until wet material according to Claim 8 wherein ~~said thin until wet material~~ comprises an at least partially cellulosic fibrous assembly and said fibrous assembly further comprises wet strength means.

10. A thin until wet material according to Claim 9 wet strength means is selected from the group consisting of wet strength resins, bicomponent fibers, powdered adhesives, and combinations thereof.

11. A thin until wet material according to Claim 10 wherein said wet strength means comprises a wet strength resin.

12. A thin until wet material according to Claim 11 wherein said wet strength resin comprises a polyamide epichlorohydrin resin.

13. A thin until wet material according to Claim 1 wherein said temporary binding means comprises a water soluble or water dispersible polymer.

14. A thin until wet material according to Claim 13 wherein said water soluble or water dispersible polymer is selected from the group consisting of polyacrylic acid and copolymers and salts thereof; polymethacrylic acid and copolymers and salts thereof; polyvinyl alcohol; starch; modified cellulose; modified starch; modified cellulose; gum acacia/gum arabic; soluble gelatin; and mixtures thereof.

15. A thin until wet material according to Claim 14 wherein said water soluble or water dispersible polymer is selected from the group consisting of polyacrylic acid and copolymers and salts thereof; polymethacrylic acid and copolymers and salts thereof; polyvinyl alcohol; and mixtures thereof.

16. A thin until wet material according to Claim 9 wherein ~~said fibrous assembly further~~ comprises fibers selected from the group consisting of high surface area fibers, non-cellulosic fibers, and mixtures thereof.

17. A thin until wet material according to Claim 16 wherein said fibrous assembly comprises high surface area fibers.

18. A thin until wet material according to Claim 16 wherein ~~said fibrous assembly comprises~~ non-cellulosic fibers.

19. A thin until wet material according to Claim 16 wherein said fibrous assembly both high surface area fibers and non-cellulosic fibers.

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20. A thin until wet material according to Claim 17 wherein said high surface area fibers have a Canadian Standard Freeness of less than about 200.
21. A thin until wet material according to Claim 17 wherein said high surface area fibers comprise crill.
22. A thin until wet material according to Claim 16 wherein said non-cellulosic fibers comprise polyester fibers.
23. A thin until wet material according to Claim 8 wherein said thin until wet material comprises a regenerated cellulosic sponge.
24. A thin until wet material according to Claim 23 wherein said regenerated cellulosic sponge comprises one or more plies wherein said plies have a cumulative basis weight of between about 300 and 1000 grams per square meter.
25. A thin until wet material according to Claim 23 wherein said temporary binding means comprises hydrogen bonding.
26. An absorbent core for an absorbent article said absorbent core comprising:  
an acquisition member, said acquisition member comprising a thin until wet material wherein said thin until wet material comprises an assembly of crosslinked cellulosic fibers, wet strength means, and temporary binding means, wherein:  
said wet strength means connects at least a portion of the individual fibers forming said assembly such that, when said material is saturated by an aqueous fluid, said material has an expanded wet density of between about 0.04 grams/cm<sup>3</sup> and about 0.5 grams/cm<sup>3</sup> and a CDH of less than about 25 cm;  
said temporary binding means helps maintain said material at a compressed dry density of between about 0.06 grams/cm<sup>3</sup> and about 1.2 grams /cm<sup>3</sup> until said material is exposed to an aqueous fluid wherein, upon such exposure, said temporary binder releases so that said material expands at a compressed initial z-direction expansion rate of at least about 0.5 millimeters/second; and  
the ratio of said compressed dry density to said expanded wet density is greater than about 1.5:1; and  
at least one additional core component in fluid communication with said acquisition member.
27. An absorbent core according to Claim 26 wherein said wet strength means comprises a wet strength resin.
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28. An absorbent core according to Claim 26 wherein said temporary binding means is selected from the group consisting of polyacrylic acid and copolymers and salts thereof; polymethacrylic acid and copolymers thereof; polyvinyl alcohol; and mixtures thereof.
29. An absorbent core according to Claim 26 wherein said fibrous assembly further comprises high surface area fibers.
30. An absorbent core according to Claim 29 wherein said high surface area fibers comprise fibers having a Canadian Standard Freeness of less than about 200.
31. A thin until wet material suitable for use as an acquisition layer in an absorbent article, the material comprising an assembly of between about 75% and about 99% crosslinked cellulosic fibers, from about 0.1% to about 5% of a material suitable for use as a wet strength means, and from 0% to about 20% of a material suitable for use as a temporary binding means, wherein said material has an expanded wet density of between about 0.04 grams/cm<sup>3</sup> and about 0.5 grams/cm<sup>3</sup> and a CDH of less than about 25 cm.
32. A thin until wet material according to Claim 31 wherein said material comprises between about 85% and about 99% crosslinked cellulosic fibers, from about 0.1% to about 2% of a material suitable for use as a wet strength means, and from 0% to about 10% of a material suitable for use as a temporary binding means.
33. A thin until wet material according to Claim 32 wherein said material further comprises between about 0% and about 15% high surface area fibers.
34. A thin until wet material according to Claim 1, wherein the process used to produce said thin until wet material includes softening steps so that said material has a buckling force of less than about 3 Newtons.
35. An absorbent core for an absorbent article said absorbent core comprising:  
an acquisition member, said acquisition member comprising a thin until wet material wherein said thin until wet material comprises a regenerated cellulosic sponge that is held in a compressed state by a temporary binding means, wherein:  
when said material is saturated by an aqueous fluid, said material has an expanded wet density of between about 0.04 grams/cm<sup>3</sup> and about 0.4 grams/cm<sup>3</sup> and a CDH of less than about 25 cm;  
said temporary binding means helps maintain said material at a compressed dry density of between about 0.06 grams/cm<sup>3</sup> and about 1.2 grams /cm<sup>3</sup> until said material is exposed to an aqueous fluid wherein, upon such exposure, said temporary binding

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means releases so that said material expands at a compressed initial z-direction expansion rate of at least about 0.5 millimeters/second; and

the ratio of said compressed dry density to said expanded wet density is greater than about 1.5:1.

at least one additional core component in fluid communication with said acquisition member.

36. A method of producing a fibrous thin until wet material suitable for use as an acquisition member in an absorbent article, said method comprising the steps of:

- a) providing a crosslinked cellulosic fibers;
- b) treating said crosslinked cellulosic fibers with a wet strength means;
- c) forming said treated fibrous material into a nascent thin until wet material;
- d) treating said nascent thin until wet material with a temporary binder;
- e) densifying said nascent thin until wet material;
- f) activating said temporary binder to form a thin until wet material wherein:

said temporary binding means helps maintain said thin until wet material at a compressed dry density of between about 0.06 grams/cm<sup>3</sup> and about 1.2 grams /cm<sup>3</sup> until said thin until wet material is exposed to an aqueous fluid wherein, upon such exposure, said temporary binder releases so that said thin until wet material expands at a compressed initial z-direction expansion rate of at least about 0.5 millimeters/second; and

the ratio of said compressed dry density to said expanded wet density is greater than about 1.5:1.